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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,655	09/25/2003	John Dunklee	KLR:1016.0085	8221

7590 03/21/2005  
Chernoff, Vilhauer, McClung & Stenzel, LLP  
1600 ODS Tower  
601 SW Second Avenue  
Portland, OR 97204-3157

EXAMINER
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CHAN, EMILY Y

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/672,655

Applicant(s)

DUNKLEE ET AL. 

Examiner

Emily Y. Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. Claims 1-2, 4, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's admitted prior art (APA) on figs. 1-2.

Regarding to claim 1, applicant's admitted prior art (APA) on Figs. 1-2 discloses a probe assembly for probing an electrical device, said probe assembly comprising:

(a) a chuck (20) having a first conductive member (top layer of the chuck 20 connecting to transmission line 22) suitable for supporting an electrical device (18); and

(b) a second conductive member (16, 24) spaced apart from said chuck (20), wherein said surface is capable of supporting the electrical device (18) at a location spaced between said first conductive member (top layer of the chuck 20 connecting to transmission line 22) and said second conductive member (24), wherein the surface is electrically interconnected to the second conductive member (24) (see Fig. 2, the

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transmission lines 22 and 26 for connecting the surface for supporting the electrical device to the second conductive member (24).

Regarding to claim 2, applicant's admitted prior art (APA) on Fig. 1 discloses that the second conductive member (16, 24) is electrically interconnected to a test signal (see lines 15, page 3 of the specification) of the electrical device (18).

Regarding to claim 4, applicant's admitted prior art (APA) Fig. 1 discloses that the second conductive member (24) comprises a plate (suspended plate) and is vertically spaced apart from the first conductive member (top layer of the chuck 20 connecting to transmission line 22).

Regarding to claim 6, applicant's admitted prior art (APA) Fig. 1 discloses that the second conductive member (16,24) is free from being supported by the chuck 20 (see Fig. 1).

Regarding to claim 8, applicant's admitted prior art (APA) Fig. 1 discloses that the first conductive member (top layer of the chuck 20) and its second conductive member (16, 24) are electrically interconnected to a first probe (14).

***Claim Rejections - 35 USC § 103***

3. Claims 3, 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (APA) as applied to claim 1 above, and further in view of Yassine ('997).

Regarding to claims 3, applicant's admitted prior art (APA) on Figs. 1-2) discloses that the second conductive member (24) comprises a second plate and is spaced further distant from the electrical device (18) than the first conductive member

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(top layer of the chuck 20) but fails to disclose that the first conductive member comprises a first plate.

However, Yassine ('997) disclose a wafer shielding chamber for probe station (see Fig. 3) comprising a chuck 30 for supporting a wafer 58 under test. Yassine ('997) exclusively discloses a first conductive member comprising a first plate (upper surface 56 of the chuck 30)(see Col. 6, line 20) and a second conductive member (60) comprises a second plate (a flat metal plate), which is vertically spaced apart from the first conductive member (see Col. 6, lines 31 and 49-51). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the first and second plates of Yassine ('997) into applicant's admitted prior art (APA)'s probe assembly for the expected benefit of eliminating air currents so that more accurate noise measurements may be taken for reliability testing as disclosed Yassine ('997) (see Col. 1, lines 11-12).

Regarding to claim 5, applicant's admitted prior art (APA) on Fig. 1 does not disclose that the second conductive member (16,24) is electrically interconnected to the surface (top layer of the chuck 20) completely within an environmental chamber.

However, Yassine ('997) disclose a wafer shielding chamber for probe station (see Fig. 3) and exclusively teach that a second conductive member (60) is electrically interconnected to a first conductive member (upper surface 56 of the chuck 30) completely within an environmental chamber (a small volume chamber 68) (see Col. 6, lines 30-32 and 45-48). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the feature of having the first and

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second conductive members within an environmental chamber as taught by Yassine ('997) into applicant's admitted prior art (APA)'s probe assembly for the expected benefit of eliminating air currents so that more accurate noise measurements may be taken for reliability testing as disclosed Yassine ('997) (see Col. 1, lines 11-12).

Regarding to claim 10, applicant's admitted prior art (APA) Fig. 1 does not disclose that a detachable substantial closed loop member engageable with the first conductive member and the second conductive member.

However, Yassine ('997) disclose a wafer shielding chamber for probe station and exclusively teach a detachable substantial closed loop member (a free-floating lid 60) engageable with the first conductive member (upper surface 64 of a space ring) and the second conductive member (lower surface 66 of the lid 60) (see abstract, lines 7-10), wherein the loop member (60) includes a flexible member (anti-friction such as Teflon) interconnecting the first conductive member (64) and the second conductive member (66) (see Col. 7, lines 5-6). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the loop member including flexible member such as Teflon of Yassine ('997) into applicant's admitted prior art (APA)'s probe assembly for the expected benefit of minimizing air currents about the wafer and enhancing sliding movement between the first conductive member and the second conductive member (see abstract and Col. 7, lines 6-7).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) Fig. 1 as applied to claim 1 above, and further in view of Navratil et al ('861).

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Applicant's admitted prior art (APA) Fig. 1 do not disclose a first probe and a second probe.

Navratil et al ('861) disclose a probe station (see Fig. 7) and exclusively teach that a first conductive member (top layer of chuck 202) is electrically interconnected to a first probe (electrical probe 210) and a second conductive member (206) is electrically interconnected to a second probe (optical probe 216) (see page 3, paragraph 0029). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add the second probe of Navratil et al ('861) into applicant's admitted prior art (APA)'s probe assembly for the purpose of facilitating accurate alignment of electrical and optical probes in probe station assembly as disclosed by Navratil et al ('861) (see page 2, paragraph 0011).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (APA) Fig. 1 as applied to claim 1 above, and further in view of Streib et al ('383).

Applicant's admitted prior art (APA) on Fig. 2 discloses the first conductive member (top layer of the chuck 20) is electrically interconnected to a first probe (14) (the electrical signal established among the top layer of chuck 20, the device under test 18, probe needle 16 and the first probe 14). Applicant's admitted prior art (APA) on Fig. 2 also discloses that the probe (14) is electrically interconnected to test instrumentation using a test path 12 but fails to specify that the test path 12 has a length, at least 50% of the length comprising a twisted pair of wires.

Streib et al ('383) disclose a probe station using multiple probes (see Fig. 1) and particularly teach that a conductive member (68) is electrically interconnected to a test instrumentation (48) and comprises a twisted pair of wires coaxial cables (66,67) (Col. 3, line 66). Since Streib et al ('383) do not specify that the conductive member (68) have length less than 50% of the length comprising the twisted pair of wires (66,67), Streib et al ('383) 's conductive member (68) meets the claimed feature to have a length, at least 50% of the length comprising the twisted pair of wires.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply coaxial cables for connecting the probe and test instrumentation as taught by Streib et al ('383) into applicant's admitted prior art (APA)'s probe assembly for the expected benefit of simplifying connection of guarding the probe holders and chucks supporting the silicon wafer as disclosed by Streib et al ('383) (see Col. 1, line 19-21).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dunklee et al US patent No. 6,861,856 disclose a probe station comprising a first conductive member (112) and a second conductive member (118). Dunklee et al US patent No. 6,861,856 does not disclose that the first conductive member (112) is electrically interconnected to the second conductive member (118).

### ***Response to Amendment***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.



Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC  
3-10-05

  
VINH NGUYEN  
PRIMARY EXAMINER  
A.U. 2829A  
03/17/05